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23 March 1982

MEMORANDUM FOR: Deputy Director of Central Intelligence

VIA: Director of Scientific and Weapons Research  
Deputy Director for Intelligence

FROM: [ ]  
Chief, Technology Transfer Assessment Center

SUBJECT : Soviet Acquisition of Western Technology by  
Major Loss Categories

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1. Based on our analysis of information from all sources available to us, the five major technology loss categories in approximate priority order are:

- Soviet and East European Intelligence Service Acquisitions
- Illegal Trade Acquisitions
- Legal Purchases of Defense Applicable Equipment
- Open Source Publications, Mainly Government Documents
- Exploitation of East-West S&T Exchange Programs and Related Activities [ ]

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2. Based on our analysis of this information, including [ ] material, there is extremely strong evidence that the vast majority, perhaps as much as 70 to 80 percent of the militarily significant Western technology acquired by the Soviets is collected by the Soviet intelligence services using clandestine, technical, and overt means. This percentage is based on satisfaction of the Military Industrial Commission's (VPK) national defense requirements. The most valuable technologies to the Soviets are those of proven Western weapons or component designs that can be applied directly to Soviet weapons R&D and industrial needs. The sources of this Western technology run the gamut: government classified or "protected;" company proprietary; and open-source technical documents from companies and government organizations. Embargoed Western equipment--which appears to be mainly the result of joint Soviet intelligence and Ministry of Trade

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illegal procurement operations--falls into this high-value category as well. [REDACTED]

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3. The remaining 20-30 percent of the militarily significant technology acquisitions from the West are satisfied by official organizations such as the State Committee for Science and Technology, Academy of Sciences, and the Ministry of Trade and related international economic bodies. These acquisitions result mainly from legal purchases, open-source publications, S&T exchanges and research with the West, and overt collection by the host of Soviet Bloc visitors. Some of these activities also involve joint efforts with Soviet or East European intelligence services and the resultant acquisitions are reflected in joint satisfaction of the VPK requirements. [REDACTED]

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4. Of the thousands of items of Western technology acquired yearly through overt collection and open sources, a relatively small percentage contains militarily significant technology and identifying and stopping its transfer presents an almost intractable problem. Moreover, it would appear that much of the academic research information would fall in this category. There are, however, a few critical exceptions: cryptographic research and research funded and directed by US Defense organizations such as DARPA's very high speed integrated circuit (VHSIC) projects. [REDACTED]

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5. S&T exchanges and related academic research, as a whole, get more attention and raise more emotional hackles than the more serious losses from other categories. Within the general category of academic activities, however, DoD-sponsored projects are potentially the most significant sources of future military or industrial technology and, as such, should be selectively protected from Soviet-Bloc intelligence collection. Furthermore, academic exchange activities themselves present a unique and serious security problem by permitting the Soviet intelligence service to spot potential recruitment targets and to develop intelligence information for future clandestine operations in the host country. The Technology Transfer Intelligence Committee's Subcommittee on Exchanges currently provide advice and guidance on these type of loss problems and its focus could be further sharpened to help stop such losses. [REDACTED]

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6. From an analytical definition and delineation of the technology loss problem such as this, an appropriate national strategy could be developed to counter the Soviet threat. A plan using appropriate law enforcement, industrial security, and counterintelligence measures--both in the US and abroad--could be forged to stop the loss of these Western technologies. Such efforts would require cooperation with our NATO and COCOM allies. Stopping the loss of militarily significant technology

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through the acquisition of open source publications, legal purchases of defense applicable equipment, and overt collection and S&T exchanges in the West requires a more open and publicly visible effort by national governments and private entities responsible for these activities. The two basic efforts would probably have to be coordinated and centrally directed to be effective. [REDACTED]

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cc: Executive Director, CIA  
DO/SE/RR [REDACTED]

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